



Irrigation ASSOCIATION CERTIFICATION PROGRAM

Certified Landscape Irrigation Auditor Examination Equations

Basic and non-irrigation equations and conversions are assumed to be known by candidates. LIA refers to the Irrigation Association Landscape Irrigation Auditor, 3rd Edition (February 2013). The equations are presented in the latest IA format and may appear different from those presented in the reference material.

1 cubic foot of water = 7.48 gallons

1 acre-inch = 27,154 gallons

1 acre-foot = 325,848 gallons

$DU_{lq} = \frac{V_{lq}}{V_{avg}}$	LIA Eq. 4-1
$SM = \frac{1}{0.4 + (0.6 \times DU_{lq})}$	LIA Eq. 4-2
$PR = \frac{96.3 \times Q}{A}$ <p style="text-align: center;"><u>Various A values</u></p> $A = S_1 \times S_2$ $A = 0.866 \times S^2$ $A = 0.8 \times D_t \times S$	LIA Eq. 4-3b LIA Eq. 4-4 LIA Eq. 4-5 LIA Eq. 4-6
$PR_{net} = \frac{3.66 \times V_{avg}}{t_R \times A_{CD}}$	LIA Eq. 4-7
$RT = \frac{D}{PR} \times 60 = \text{minutes}$	LIA Eq. 6-1
$K_L = K_T \times K_d \times K_{mc}$ $K_L = K_p \times K_d \times K_{mc}$	LIA Eq. 7-1a LIA Eq. 7-1b


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$ET_L = ET_o \times K_L$	LIA Eq. 7-2
$RT = \frac{ET_L}{PR} \times 60$	LIA Eq. 7-3
$RT_{upper} = RT \times SM$	LIA – Discussion p. 115
$\text{Cycle starts} = \frac{\text{Total run time \{min\}}}{\text{Time to runoff \{min\}}}$	LIA Eq. 7-4
$RT_{cycle} = \frac{\text{Total run time \{min\}}}{\text{Cycle starts}}$	LIA Eq. 7-5
$PAW = AW \times RZ$	LIA Eq. 8-1
$AD = PAW \times MAD$	LIA Eq. 8-2
$PR = \frac{1.605 \times Q_{gph}}{A}$	LIA Eq. 9-1
$PR = \frac{231.1 \times Q_{gph}}{S_{ei} \times S_{li}}$	LIA Eq. 9-2